Annual Report of Operations for Year 2021

To comply with NPDES General Permit No. WAG130000 for Federal Aquaculture Facilities and Aquaculture Facilities Located in Indian Country within the Boundaries of the State of Washington

NPDES # for your Facility:
WAG 130022

Facility & Owner Information

Facility Name: U.S. Fish and Wildlife Service, Quilcene National Fish Hatchery	
Operator Name (Permittee): Department of the Interior	
Address: 281 Fish Hatchery Road Quilcene, WA 98376	
Email: dan_magnesan@fws.gov	Phone: 360-765-3334
Owner Name (if different from operator): Dan Magnesan	
Email:	Phone:

Best Management Practices (BMP) Plan

Has the BMP Plan been reviewed this year? ☒ Yes ☐ No

Does the BMP Plan fulfill the requirements of the General Permit? ☒ Yes ☐ No

Summarize any changes to the BMP Plan since the last annual report. Attach additional pages if necessary.

EPA General Permit WAG130000 - Annual Report

Operations and Production

Total harvestable weight produced in the past calendar year in pounds (lbs): 31036 Pounds of food fed to fish during the maximum month: 4444

List the species grown or held at your facility and the annual production of each in gross harvestable weight. If fish were released rather than harvested, list the weight at time of release.

Species	Fish Produced	Receiving Water(s) to which Fish were Released	Month Released/ Spawned
Coho Salmon	34,436	Big Qualicene River	

Fill in the table below with production numbers from the past year. List the **maximum** amount of fish on-site and the maximum amount of food fed **per month**.

Month	Total Fish (lbs)	Fish Feed (lbs)	Month	Total Fish (lbs)	Fish Feed (lbs)
January	24,950	1724	July	10308	2464
February	30,343	2500	August	14378	3960
March	32034	4136	September	16198	2860
April	36830	4444	October	18546	1760
May	4238	1716	November	20761	1232
June	7308	1672	December	21516	1760

Additional Comments:

Solid Waste Disposal

Describe the solid waste disposed of during the calendar year (including fish mortalities).

Type of Solid Disposed	Date Disposed	Location Disposed

Additional Comments: Fish mortalities (juvenile) to Landfill Operation via Commercial Garbage Hauler. Adult (Spawned and Holding Pond Mortality Only) buried on Station property.

Fish Mortalities

Include a description and the dates of mass mortalities in the past year (more than 5% per week). Attach additional pages, if necessary. Include total mortalities from all causes.

Date	Cause of Deaths	Steps Taken to Correct Problem	Pounds of Fish

Additional Comments:

No Instances of Mass Mortality During 2021

Noncompliance Summary

Include a description and the dates of noncompliance events (including spills), the reasons for the incidents, and the steps taken to correct the problems. Attach additional pages, if necessary.

None.

Inspections & Repairs for Production & Wastewater Treatment Systems

Date Inspected	Date Repaired	Description of System Inspected and/or Repaired
May 2021	None were Needed	All Fish Production-Related Piping, Fixtures and Concrete Surfaces

Aquaculture Drugs and Chemicals

Please indicate whether you used each drug/chemical **during the past calendar year**.
Describe the use of each drug/chemical in more detail on the following pages.

Used in the past year?	Drug or Chemical
☐ Yes ☒ No	Azithromycin
☐ Yes ☒ No	Chloramine-T: *See additional reporting requirements on page 7*
☐ Yes ☒ No	Chlorine
☐ Yes ☒ No	Draxxin
☐ Yes ☒ No	Erythromycin - injectable
☐ Yes ☒ No	Erythromycin - medicated feed
☐ Yes ☒ No	Florfenicol (Aquaflor)
☒ Yes ☐ No	Formalin - 37% formaldehyde: *See additional reporting requirements on page 7*
☐ Yes ☒ No	Herbicide - describe:
☐ Yes ☒ No	Hormone - describe:
☐ Yes ☒ No	Hydrogen Peroxide: *See additional reporting requirements on page 7*
☒ Yes ☐ No	Iodine: *See additional reporting requirements on page 7*
☐ Yes ☒ No	Oxytetracycline
☐ Yes ☒ No	Potassium Permanganate: *See additional reporting requirements on page 7*
☐ Yes ☒ No	Romet
☐ Yes ☒ No	SLICE (emamectin benzoate)
☐ Yes ☒ No	Sodium Chloride - salt
☐ Yes ☒ No	Vibrio vaccine
☐ Yes ☒ No	Other:
☐ Yes ☒ No	Other:

Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: Western Chemical		Generic Name: Ovadine (PVP Iodine)	
Reason for use: Egg Hardening Plus use as a general disinfectant			
☒ Preventative/Prophylactic ☐ As-needed	Total quantity of formulated product per treatment (specify units): 1860mls	Total quantity of formulated product used in past year (specify units): 23 gallons	
Date(s) of treatment: September 28, 2021; October 5, 12, 19, 26 2021; November 2, 2021			Total number of treatments in past year: 6
Maximum daily volume of treated water: 13 gallons	Treatment concentration (specify units): 75 ppm	Duration and frequency of treatment(s): 30 minutes	
Method of application:	☒ Static Bath ☐ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ☒ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	☐ Discharged w/o treatment ☒ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: ALL is routed to EPA Settling Pond			

Brand Name: Western Chemical		Generic Name: 1.75% Iodine	
Reason for use: Disinfection of Fish Cultural Implements			
☒ Preventative/Prophylactic ☐ As-needed	Total quantity of formulated product per treatment:	Total quantity of formulated product used in past year (specify units): 7½ gallons	
Date(s) of treatment: Year-Round on Outdoor Raceways			Total number of treatments in past year: 271
Maximum daily volume of treated water: 8,379 gallons	Treatment concentration (specify units): 0.000000107 gallons	Duration and frequency of treatment(s): a quick dip is all	
Method of application:	☐ Static Bath ☒ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☒ Raceways ☐ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	☒ Discharged w/o treatment ☒ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

"A" Bank 1120 cu. ft.

5 Days per week, and 10 federal holidays (we work Columbus Day)

Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: Western Chemical		Generic Name: Parasite-S	
Reason for use:			
☒ Preventative/Prophylactic ☐ As-needed	Total quantity of formulated product per treatment (specify units): 4.0 gallons	Total quantity of formulated product used in past year (specify units): 248 gallons	
Date(s) of treatment: August 25, 2021 – December 10, 2021			Total number of treatments in past year:
Maximum daily volume of treated water:	Treatment concentration (specify units):	Duration and frequency of treatment(s): M-W-F 4.0 gallons dispensed over 20 minutes for adults, this is maximum level. Eggs also treated M-W-F, amount varies.	
Method of application:	☐ Static Bath ☒ Flow-through	☐ Medicated Feed ☐ Other (describe): dispensed via metering pump for adults and eggs both.	
Location in facility chemical was used (check all that apply):	☒ Raceways ☒ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	☐ Discharged w/o treatment ☒ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: Metered out by pump for both. All is routed to EPA Settling Pond			

Brand Name: Hach		Generic Name: 25569-00 Free Chlorine Reagent Set	
Reason for use: Measure/Monitor Free Chlorine Levels (Drinking Water)			
☒ Preventative/Prophylactic ☐ As-needed	Total quantity of formulated product per treatment: each set = 946 mLs.	Total quantity of formulated product used in past year (specify units):	
Date(s) of treatment: January 1, 2021 – December 31, 2021			Total number of treatments in past year: All 365 days of the year
Maximum daily volume of treated water: per 24 hours 1,938,240 gallons (diluting → 3 c.f.s. Pre-Settling Basin Spill-over Flows)	Treatment concentration (specify units):	Duration and frequency of treatment(s):	
Method of application:	☐ Static Bath ☒ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ☐ Incubation building	☐ Ponds ☐ Off-line settling basin	☒ Other (describe): Isolation Building not used since 2014, so Domestic Water Only.
Where did water treated with this chemical go? (check all that apply):	☒ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

Aquaculture Drugs and Chemicals (cont'd)

Additional Reporting Requirements for Water-Borne Treatments

- If a water-borne treatment was used during the calendar year, Permittees must include detailed records/calculations as an attachment to this Annual Report in order to demonstrate how the maximum effluent concentrations of solution and active ingredient were calculated for each chemical.
- EPA recognizes that water-borne treatments may vary in the volume of the vessels treated, concentration, quantity of product, etc. Permittees must provide the information listed in the following tables for a reasonable worst case (i.e., maximum effluent concentration) scenario, not for each individual treatment.
- Permittees must submit this information and calculate the maximum effluent concentration for each water-borne chemical used during the past calendar year.
- See also Appendix D for the Chemical Log Sheet.

Static Bath Treatments See Attached Sheet	
Tank Volume	16½" X 182½" x 5" Egg Trough Liters
Desired Static Bath Treatment Concentration	75 ppm active solution µg/L
Volume of Product Needed	1860 mLs. Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: Active Ingredient: Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	5,400 gallons per minute x 60 minutes x 24 hours = 7,776,000 Specify Units
Maximum % of Facility Discharge Treated	% of Total Discharge

Flow-Through Treatments See Attached Sheet	
Tank Volume	Liters
Calculated Flow Rate	Liters/Minute
Duration of Treatment	Minutes
Desired Flow-Through Treatment Concentration of Product	µg/L
Amount of Product to Add Initially	Liters Product
Amount of Product to Add During Treatment	mL/Minute
Total Volume of Product Needed	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: Active Ingredient: Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	5,400 gallons per minute x 60 minutes x 24 hours = 7,776,000 Specify Units
Maximum % of Facility Discharge Treated	2.83% 1.75% Iodine % of Total Discharge

Changes to the Facility or Operations

Describe any changes to the facility or operations since the last annual report.
None.

Signature and Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly evaluate and gather the information submitted. Based on my inquiry of the person or persons, who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Daniel M. Magneson	Supervisory Fish Biologist
Printed name of person signing	Title
	January 12, 2021
Applicant Signature	Date Signed

Submittal Information

Send the complete, signed information, along with any attachments, to the following address:

U.S. EPA Region 10, OWW-191

Washington Hatchery Annual Report

1200 Sixth Avenue, Suite 900

Seattle, WA 98101-3140

2021 ANNUAL REPORT FOR QUILCENE NATIONAL FISH HATCHERY

CHEMICAL USE IN FISH CULTURE

Western Chemical's Ovadine (PVP Iodine): 1860 mls are used, equating to 0.49 gallons. This is routed to the selling basin and further diluted by the 355,348 gallons of water in the settling basin itself.

This is thus a 0.000001378 total product concentration, and for total active ingredient is 0.000000137

Western Chemical's 1.75% Iodine: the highest concentration would be dipping mortality without pond cleaning. Since mortality is generally at the tail screens and at our 600 g.pm. flows per raceway it is quickly overflowed out of the raceway, it is being diluted by 9 raceways X 600 g.p.m. each = 5,400 g.p.m. aggregate flows. So 0.0009 gallons per dip of 1.75% Iodine total product concentration is thus 0.000000166, and at its 1.75% active ingredient level is 0.000000002

Western Chemical's Parasite – S: this product is administered at a rate of 4 gallons over 20 minutes into 10,713 gallons of water within the raceway, which is in turn at 300 g.p.m. flows during treatment. So the treatment is 0.2 gallons per minute into 300 g.pm. raceway inflows.

All is discharged down to the settling basin. So the entire 4 gallons of Parasite –S is received by 355,348 gallons of water down there,

resulting in a maximum total concentration of 0.0113, or 0.0000042 for the active ingredient.

Hach Free Chlorine Reagent Set: we used 8514 mLs. over the entire course of the 2021 calendar year; using the label, I could not determine how much of this product is active ingredient, so for worst case scenario I considered all of it active ingredient. The Hach CL-17 using these reagents runs 24 hours per day, and is mixed into approximately 3 c.f.s. of water, or 1,346 g.p.m. overflowing from the pre-settling basin also all 24 hours of the day.

Reagent use is thus 23.33 mLs per day, or 0.00616313 gallons per day. This is discharged into 1,938,240 gallons of water over 24 hours, and yields a total concentration of 0.000000003.

The active ingredients for:

1.75% Iodine = 1.75% from Nonylphenoxypoly (ethyleneoxy) ethanol-iodine complex

PVP Iodine = 10% Povidone-Iodine Complex providing 1.0% minimum titratable iodine

Parasite – S = 37% formaldehyde

Effluent from the Main Hatchery Building (containing PVP Iodine used in water-hardening freshly spawned eggs) and Parasite – S are routed to the EPA Pond as is Parasite – S from the adult holding ponds. The hatchery 100% switched away from the former use of Perox – Aid for treating adults during the 2016 season; the last use of Perox – Aid was during the 2015 adult holding period.

Both the PVP and 1.75% Iodine solutions do not necessarily end up in the hatchery effluent, but are also used to disinfect raingear, waders and other equipment brought in by our partners before actual use at this station.